



KPPC

Kentucky's Resource Center for
Environmental Sustainability

KPPC - Kentucky Pollution Prevention Center

Introduction to Electric Demand

March 2018

- **Cheryl Eakle, CEM**
Sr. Engineer

KPPC is based at the
University of
Louisville J.B. Speed
School of
Engineering

Help KY businesses and
industries develop
environmentally
sustainable, cost-saving
solutions for improved
efficiency

Free • Confidential • Non-regulatory



Electric Energy Units

- **KILOWATT (kW)** – unit used to measure *rate* of electric use
- **KILOWATT-HOUR (kWh)** - unit used to measure electrical energy use over time
 - 1 kWh = 1,000 Watts of power used for 1 hour



Billing and Rate Structure–Tariff

Utility companies classify electric service according to rate types

- Residential
- Commercial
 - General Service
 - Power Service
 - Time-of-Day
- Industrial
 - Power Service
 - Time-of-Day



Electric Service Charges

- **Customer Charge, Basic Service Charge, or Facility Charge**
- **Energy Charge (kWh)**
- **Demand Charge (kW)**

Energy Units – Electricity Analogy

Electrical Charges typically have two metered components:

Demand (Power)

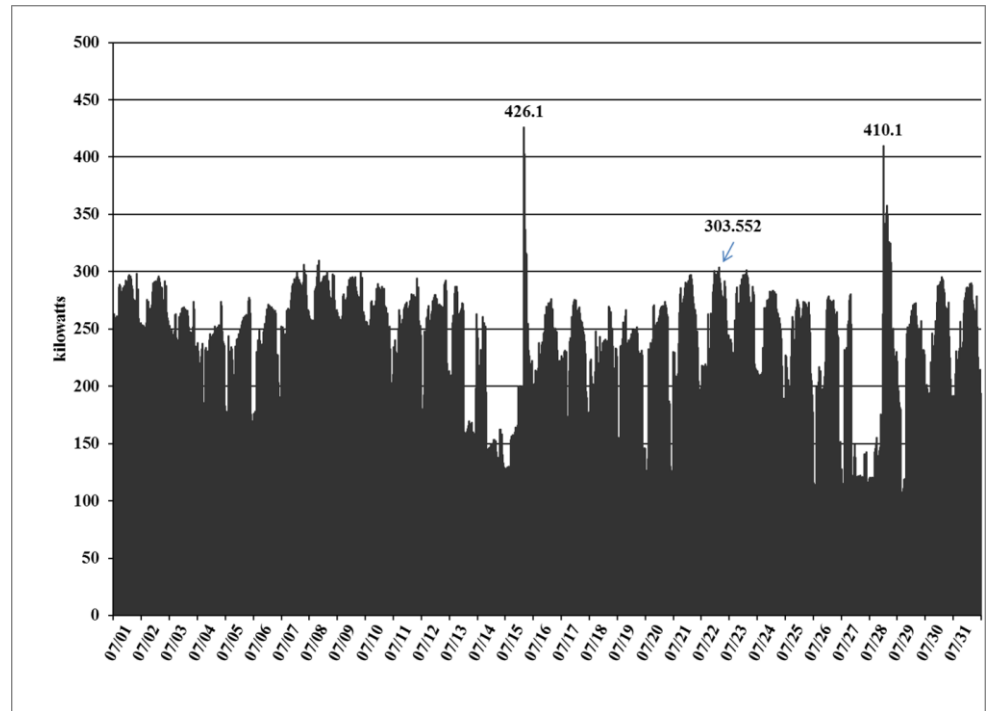


Consumption (Energy)



Demand Charges

- Usually calculated in 15- or 30-minute intervals
- Demand charge is peak demand in billing period



Clark Energy Cooperative

SERVICE		NO. DAYS	METER NUMBER	READING		RATE	MULTIPLIER	KWH USAGE
FROM	TO			PREVIOUS	PRESENT			
12/31/2017	01/31/2018	31		40441	40670	P	800.0000	183200
Demand Information				Current Bill Information			\$ Amount	
ACTUAL DEMAND				572.000	FACILITY CHARGE			86.88
BILLED DEMAND				572.000	ENERGY			10744.68
POWER FACTOR PERCENT				0.9466	DEMAND CHARGE KW 572.00			3552.12
					(1) - LED OPEN BOTTOM LIGHT			9.52
					(15) - LED DIRECTIONAL FLOOD LIGHT			328.95
					(2) - LED DIRECTIONAL FLOOD WITH POLE			54.94
					FUEL ADJUSTMENT @ -0.0015090			-278.35
					KY STATE TAX			990.49
					SCHOOL TAX			480.81
					ENVIRONMENTAL SURCHARGE @ 10.920%			1583.26
					TOTAL CURRENT CHARGES			17553.30
Activity Since Last Bill				\$ Amount				
PREVIOUS BALANCE				15976.05				
PAYMENT				-15976.05				
OTHER CHARGES/ADJUSTMENTS				0.00				
PRIOR BALANCE				0.00				
For billing inquiries please call:								
(859) 744-4251 or (800) 992-3269 8:00 A.M. - 4:30 P.M., M-F								
To make a payment by phone, call toll free, (877)562-5469.								
Failure to receive your bill does not exempt you from payment, late charges or disconnection.								
Five percent (5%) penalty will be added after due date.								
Night depositories are available at each Clark Energy office.								
Due Date		02/20/2018		Amt Due		\$17553.30		
Past Due After		02/20/2018		Gross Due		\$18430.97		

Kentucky Utilities

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Account #

⚡ CURRENT METER AND USAGE INFORMATION

Contract: 114712

Rate: Power Service Secondary

	Meter Number	Previous Read Date	Previous Reading	Current Read Date	Current Reading	Read Code*	Meter Multiplier	Usage kWh	Demand (kW)	Power Factor	PF Adj. (kW)
kWh	2800189	9/6/16	15239	10/4/16	16277	R	40	41,520			
kW-BS	2800189	9/6/16		10/4/16	3,4840	R	40		139.4		
Total Usage								41,520			

* Meter Read Codes: R-Actual Read; V-Verified Read; E-Estimated Read; S-Self Read

⚡ CURRENT ELECTRIC CHARGES

Contract: 114712

Rate: Power Service Secondary

Basic Service Charge	90.00
Energy Charge (\$0.03572 x 41,520 kWh)	1,483.09
Base Demand Charge (\$16.95 x 139.4 kW)	2,362.83
Electric DSM (\$0.00042 x 41,520 kWh)	17.44
Environmental Surcharge (2.59% x (\$3,953.36 - \$1,200.76))	71.29
Fuel Adjustment (\$-0.00428 x 41,520 kWh)	-177.71
Rate Increase For School Tax (3.00% x \$3,846.94)	115.41
Franchise Fee (2.00% x \$3,846.94)	76.94
Sales Tax (6.00% x \$4,039.29)	242.36
Total Charges Contract	\$4,281.65

Other Electric Service Charges

- **DSM Cost Recovery**
- **Environmental Surcharge**
- **Fuel Adjustment Charge**
- **Local Tax (School Tax)**
- **Franchise Fee**
- **Ky. Sales Tax**

Any Last Questions?





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